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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,458	07/12/2002	Roy G Gordon	42697.127WOI	1413

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EXAMINER	
ANTHONY, JOSEPH DAVID	

ART UNIT	PAPER NUMBER
1714	

DATE MAILED: 12/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/019,458	GORDON ET AL.	
	Examiner	Art Unit	
	Joseph D. Anthony	1714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 23-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 23-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Second Action Non-Final

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claim 13 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Applicant's claim 13 is not enabled by the specification in regards to its limitation of: "a compound of an alkali metal and an amide ligand, **said compound being a liquid at a temperature of less than about 70°C**." [Emphasis added]. Applicant's specification has wholly failed to set forth any empirical data that applicant' claimed compounds of an alkali metal and an amide ligand are in fact in the liquid state at such low temperatures of –50°C, -100°C, -150°C, -200°C, and Absolute Zero, all of which are within the scope of said limitation of: "**said compound being a liquid at a temperature of less than about 70°C"** as set forth in pending independent claim 13.

3. Claim 6 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession

of the claimed invention. Applicant has introduced New Matter into claim 6 when the claim was re-written into independent form by applicant's amendment of 09/22/2004. Claim 6, as presently amended, reads on a mixture of an alkali metal and an amide ligand selected from the listed group. There is no requirement in amended claim 6 that the alkali metal and the amide ligand are in the form of a compound which is required by applicant's originally filed disclosure. Claim 6 reads on a physical admixture of elemental alkali metal and amide ligand, for which the originally filed disclosure has absolutely no support.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2-5 and 7-11 and 23-25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claimed structural formula for the alkali metal amide, as set forth in claims 2, 7 and 23 are all deemed to be indefinite in regards to the chemical structures that would result when the subscript "n' is actually a number greater than 1, say 2 for example. Just where is the bonding taking place?

Claim 7 itself has become indefinite when it was it re-written into independent form by applicant's amendment of 09/22/2004 because there is no definition of what "M" stands for, or what the numeric range of subscript "n" is.

Claims 3-5, 8-11 and 24-25 are rejected here because they are dependent on rejected base claims.

Claim Objections

6. Claim 1 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 1, which is dependent on independent claim 13, is not further limiting because independent claim 13 already requires that the compound is a liquid at a temperature of 20°C, since it has the limitation of: "said compound being a liquid at a temperature of less than about 70°C.".

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-6, 8, 12-13 and 23-25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by applicant's IDS supplied Article entitled: "Synthese und Selbstadditionsverhalten von Iminophosphane des Typs C-P=N=C(Si)", by Niecke et al. (pages 202-205).

Niecke et al directly teaches the compound **$LiN(SiMe_2tBu)_2$**, see page 203, column 3, about 2/3 of the way down from the top. Niecke et al also strongly suggest the compound **$LiN(SiMe_3)R'$ wherein R' is $SiME_2tBu$**, see Schema I at the bottom of columns 1 and 2 of page 203.

9. Claims 1-8, 13, and 23-25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by the Article entitled: "Dehydrohalogenation reaction using hindered lithium dialkylamide bases", By Kopka et al., Dep. Chem, Michigan State Univ. USA (1986), as abstracted by Chemical Abstract Ascension Number 1986:571530 HCAPLUS.

Chemical Abstract Ascension Number 1986:571530 directly teaches the compound **Silanamine, 1-ethyl-N-(ethyldimethylsilyl)-1,1-dimethyl-, lithium salt,** see page 03 of said Chemical Abstract.

10. Claims 1-5, 8, 12-13, and 23-25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kosley, Jr. et al. U.S. Patent Number 5,145,855.

Kosley, Jr. et al in column 8, lines 47-54 teach the compound **lithium bis(triethylsilyl)amide** and directly discloses that the **sodium and potassium salts of bis(triethylsilyl)amide** can be made and used in leu of the lithium salt.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 7 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's IDS supplied Article entitled: "Synthese und Selbstadditionsverhalten von Iminophosphane des Typs C-P=N=C(Si)", by Niecke et al. (pages 202-205).

Niecke et al have been described above and differ from applicant's claimed invention in the following ways: 1) there is no direct disclosure to making or using silanamines that correspond to applicant's structure of claim 7., 2) there is no direct disclosure to the use of potassium or sodium in leu of lithium, and 3) there is no direct disclosure to making or using silanamines that correspond to applicant's structure of claim 11.

It would have been obvious to one having ordinary skill in the art to use the broad disclosure of Niecke et al' invention as motivation to have the R' moiety be an ethyl group. Ethyl is deemed to be an obvious homolog of methyl and t-butyl. In any case, the R' groups listed in the Table at the bottom of column 2 on page 203 where given by way of illustration and not by way of limitation.

Likewise, it would have been obvious to one having ordinary skill in the art to use the individual disclosure of either reference as motivation to actually make compositions that contain sodium or potassium as the alkali metal in order to make sodium or potassium silamines that correspond to applicant's claimed sodium or potassium silanamines. It is deemed to be obvious to substitute either

potassium or sodium for lithium, since all three are alkali metals and are deemed to be functional equivalent of each other.

Finally, applicant's claim 11 may or may not be obvious over the disclosure of Niecke et al.. It really all depends on what the true structures are of compounds according to claim 11 are. As of now, since claim 11 is deemed to be indefinite, such structures cannot be known until clarified by applicant.

13. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over by the Article entitled: "Dehydrohalogenation reaction using hindered lithium dialkylamide bases", By Kopka et al., Dep. Chem, Michigan State Univ. USA (1986), as abstracted by Chemical Abstract Accession Number 1986:571530 HCAPLUS **or** Kosley, Jr. et al. U.S. Patent Number 5,145,855

Both Kopka et al and Kosley, jr. et al have been described above. They differ from applicant's claimed invention in the following ways: 1) there is no direct disclosure to the use of potassium or sodium in leu of lithium.

It would have been obvious to one having ordinary skill in the art to use the individual disclosure of either reference as motivation to actually make compositions that contain sodium or potassium as the alkali metal in order to make sodium or potassium silamines that correspond to applicant's claimed sodium or potassium silanamines. It is deemed to be obvious to substitute either potassium or sodium for lithium, since all three are alkali metals and are deemed

to be functional equivalent of each other. The Kosley, Jr. et al patent makes this point very clear, in column 8, lines 47-54.

Finally, applicant's claim 11 may or may not be obvious over the individual disclosures of Kopka et al. and Kosley, Jr, et al.. It really all depends on what the true structures are of compounds according to claim 11 are. As of now, since claim 11 is deemed to be indefinite, such structures cannot be known until clarified by applicant.

Response to Arguments

14. Applicant's arguments filed 09/22/2004 with the amendment have been fully considered but are not persuasive to put the application in condition for allowance for the reasons set forth above. Additional examiner comments are found next. Contrary to applicant's argument, the Niecke et al reference does indeed directly teach **$LiN(SiMe_2tBu)_2$**, see page 203, column 3, about 2/3 of the way down from the top of the Article for support.

Finally, the examiner flatly rejects applicant's argument that: *Even if the Nieke Abstract were a disclosure of the compound name in the document, the molecular formula and structure of the compound differs from the compounds of the instant invention. The Nieke Abstract discloses a neutral amine associated with sodium atom. The amides ligands of claims 2-11 lack the amino proton of and are therefor not anticipated by the Nieke Abstract.*", see page 11, lines 4-8 of applicant's response filed 09/22/04. In the first place the Nieke Abstract teaches

an amide ligand associated with a Lithium atom not a sodium atom. More importantly, the above argument by applicant's representative is in direct conflict with applicant's originally filed specification. Applicant's attention is drawn to Tables 2-4 on pages 16-18 of applicant's specification wherein the claimed compounds are disclosed to be Lithium salts, see Table 2; Sodium salts, see Table 3; or Potassium salts, see Table 4. Furthermore, applicant's attention is drawn to the enclosed copy of Chemical Abstract Accession Number 2000:790762 which corresponds to WO 2000-US11415 (i.e. applicant's present invention) wherein Chemical Abstract indexes all of applicant's claimed compounds as *neutral amine associated with an alkali metal atom wherein the neutral amine ligand has the amino proton*. It is thus clear that there are different ways of correctly illustrating the structural formula of applicant's claimed compounds.

Prior-Art Cited But Not Applied

15. Any prior-art reference which is cited on FORM PTO-892 but not applied, is cited only to show the general state of the prior-art at the time of applicant's invention.

Examiner Information

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Joseph D. Anthony whose telephone number is (571) 272-1117. This examiner can normally be reached on Monday through

Thursday from 8:00 a.m. to 6:30 p.m. in the eastern time zone. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Vasu Jagannathan, can be reached on (571) 272-1119. The centralized FAX machine number is (703) 872-9306. All other papers received by FAX will be treated as Official communications and cannot be immediately handled by the Examiner.

Joseph D. Anthony
Primary Patent Examiner
Art Unit 1714

12/03/04